

### **REMARKS**

Applicants submit this Reply in response to the Office Action mailed November 10, 2009. Prior to this Reply, claims 15-24 were submitted for examination. By this Amendment, Applicants have amended claims 15, 16, 19, 20, 22, and 24 and canceled claim 21 without prejudice or disclaimer. No new matter has been added. Thus, claims 15-20 and 22-24 are submitted for examination, claim 15 being the sole independent claim.

In the Office Action, the Examiner alleged that the oath or declaration is defective; rejected claims 16, 21, 22, and 24 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention; rejected claims 15, 16, 20-22, and 24 under 35 U.S.C. § 102(e) as being anticipated by U.S. Pat. App. No. 2004/0179796 ("Jakobsen"); rejected claims 15 and 17-20 under § 102(e) as being anticipated by U.S. Pat. App. No. 2003/0136154 ("Tajima"); and rejected claim 23 under 35 U.S.C. § 103(a) as being unpatentable over Tajima in view of U.S. Pat. No. 6,467,312 ("De Hazan") and U.S. Pat. No. 4,883,521 ("Shimizu").

Applicants respectfully traverse all pending rejections for at least the reasons discussed below.

#### **Objection to Oath/Declaration**

In the Office Action, the Examiner objected to Applicants' oath or declaration, asserting that the specification to which the oath or declaration is directed has not been adequately identified. In particular, the Examiner asserts, "The declaration filed 25 December 2007 . . . refers to two specifications. Examiner understands that a proper

declaration must be directed to a single specification.” Office Action at 2. Applicants respectfully traverse the objection to the Declaration.

As an initial matter, Applicants note that it does not appear any declaration was filed December 25, 2007. It is presumed, for the purpose of responding to this objection, that the declaration submitted January 25, 2007 is the declaration to which the Examiner refers.

Pursuant to 37 C.F.R. 1.497(a) and (b), Applicants are required to submit a declaration identifying the application by the international application number and international filing date. Accordingly, Applicants submitted a declaration on January 25, 2007, identifying the present application by its international filing data: PCT International Application No. PCT/EP2003/007157 filed June 30, 2003. The declaration also identifies the international application as having been filed and amended in this country in the national stage on December 29, 2005. By identifying the present application by its PCT international application data and by its filing date for this national stage, Applicants’ declaration has met all the requirements of 35 U.S.C. § 371. Thus, Applicants believe the previously filed declaration is proper, and no new oath or declaration should be required.

Accordingly, Applicants respectfully request the Examiner reconsider and withdraw the objection to the declaration.

**Rejections Under 35 U.S.C. § 112, Second Paragraph**

The Examiner rejected claims 16, 21, 22, and 24 under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, with

respect to claim 16, the Examiner stated, “[T]here is no antecedent basis for ‘the density.’” Office Action at 3. And, with respect to claims 20 and 21, the Examiner stated, “[T]here is no antecedent basis for ‘said glass soot perform.’” *Id.*

In response, Applicants have amended claim 16 to recite, among other things, “a density,” and amended claim 20 to depend from claim 19, which recites, in part, “a glass soot perform.” Claim 21 has been canceled.

Further, and again with respect to claim 16, the Examiner alleged, “The claim recites that the density has a maximum variation of +/- 2%. It is unclear whether this is a variation of 2%, or whether it signifies a variation of 4%, because the difference between -2% and +2% is 4%. And it is also unclear if the baseline is a median or a mean (or something else).” *Id.*

Applicants note that claim 16 has been amended to recite, “The method according to claim 15, wherein a density of the porous preform in an annular region thereof wherein the at least one hole is to be formed has a maximum variation of 4%.” As for the Examiner’s concern regarding the “baseline” for a such a measurement, Applicants assert that such an additional limitation is unnecessary. As recited, it is a density at any point within an annular region of the preform that can be measured and will vary from any other density in that same annular region by 4% or less. No “median,” “mean,” or “baseline” value for the density of the perform within an annular region thereof is claimed, nor is it necessary.

The Examiner also rejected claim 24 under § 112, second paragraph, and alleged, “[I]t is unclear what is meant by the hole ‘extending through’ a direction. A direction has no beginning or end, thus nothing can go literally through it.” *Id.*

In response, Applicants have amended claim 24 to recite, in part, "at least one hole extending in a fiber longitudinal direction."

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 16, 22, and 24 under § 112, second paragraph.

**Rejections Under 35 U.S.C. § 102(b)**

Applicants respectfully traverse the rejection of claims 15, 16, 20-22, and 24 under 35 U.S.C. § 102(e) as being anticipated by Jakobsen and the rejection of claims 15 and 17-20 under § 102(e) as being anticipated by Tajima. In order to properly establish that either reference anticipates Applicants' claimed invention under 35 U.S.C. § 102, every element of the claims in issue must be found, either expressly or described under principles of inherency, in that single reference. Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the... claim." See M.P.E.P. § 2131, quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 15 has been amended to incorporate a limitation previously recited in now-canceled dependent claim 21. Amended independent claim 15 now recites, in part, "a porous preform having a longitudinal direction and a density in a range from 0.25 to 0.8 g/cm<sup>3</sup>." In the Office Action, the Examiner did not consider whether Jakobsen disclosed a perform having a density as recited in previously-pending dependent claim 21. Rather, with respect to claim 21, the Examiner stated:

[This] claim depend[s] on claim 15 and [refers] back to a "glass soot perform." But there is no antecedent basis for a soot perform. In this situation it is deemed that the broadest reasonable interpretation of these claims is: If there is a glass soot perform, then it had a density in the range . . . . But since Jakobsen's method does not have a soot perform, the conditional (if) is not met,

so the result (then) is not required. Thus, [claim 21] fail[s] to define over Jakobsen.

However, as described in Applicants' specification, the use of a relatively soft perform in the production of holey optical fiber preforms provides advantages over other production methods described in the cited references that entail the drilling or milling of more dense performs. Applicants' specification explains:

It is observed that drilling and milling of glass rods has also been proposed in connection with the manufacturing of optical fibers different from holey fibers. . . .

The Applicant has observed that the drawbacks of these techniques are such as to make their use impractical for industrial, large-scale production of holey fibers. In fact, due to the hardness of the glass, drilling holes therein is extremely time-consuming: several hours are necessary for making even a single hole. Clearly, as the number of holes to be made increases, the fiber manufacturing time really explodes. . . .

The Applicant has realized that the holes can be formed rather easily by drilling the relatively soft glass soot bodies that are obtained from known soot processes, before submitting them to consolidation. This is much easier, much faster, and also better from the viewpoint of the results than drilling holes into a vitrified rod. . . .

Preferably, in order to avoid the risk of cracking during the drilling operation, the glass soot perform has a density (D) in a range from 0.25 to 0.8 g/cm<sup>3</sup> . . . .

Specification at page 5-9.

Neither Jakobsen nor Tajima anywhere appear to disclose, "a porous preform having a longitudinal direction and a density in a range from 0.25 to 0.8 g/cm<sup>3</sup>." Rather, those references describe the drilling or milling of harder, more dense preforms present in the art. As noted in Applicants' specification, the use of such performs in the formation of holey optical fibers is impractical for industrial large-scale production due to the time and labor necessary to make each of the holes.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejections of independent claim 15 based on Jakobsen and Tajima under § 102.

Moreover, claims 16-22 and 24 depend from amended independent claim 15 and thus, contain all the elements and recitations thereof. As a result, dependent claims 16-22 and 24 are allowable at least due to their corresponding dependence from independent claim 15.

**Rejections Under 35 U.S.C. § 103(a)**

Applying 35 U.S.C. § 103(a), the Examiner rejected claim 23 as being unpatentable over Tajima in view of De Hazan and Shimizu. Applicants respectfully traverse this rejection because the Office Action has failed to establish a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” See M.P.E.P. § 2142, 8th Ed., Rev. 6 (Sept. 2007). Moreover, “in formulating a rejection under 35 U.S.C. § 103(a) based upon a combination of prior art elements, it [is] necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.” USPTO Memorandum from Margaret A. Focarino, Deputy Commissioner for Patent Operations, May 3, 2007, page 2.

A *prima facie* case of obviousness has not been established because, among other things, none of Tajima, De Hazan, Shimizu, or any proper combination thereof, teaches or suggests every feature of Applicants’ claims. As discussed above with

respect to claim 15, Tajima fails to teach or suggest “a porous preform having a longitudinal direction and a density in a range from 0.25 to 0.8 g/cm<sup>3</sup>.” Further, neither De Hazan or Shimizu cures the deficiencies of the primary reference. Thus, even if the references were combined as the Examiner suggests, they do not teach or suggest all of the elements recited in Applicants’ amended independent claim 15.

Claim 23 depends from independent claim 15 and thus, contain all the elements and limitations thereof. As a result, dependent claim 23 should be allowable at least due to its corresponding dependence from independent claim 15.

Accordingly, Applicants request that the Examiner reconsider and withdraw the rejection of claims 23 under 35 U.S.C. § 103(a) over Tajima, De Hazan, and Shimizu.

#### **Claim Scope**

It is to be understood that Applicants are in no way intending to limit the scope of the claims to any exemplary embodiments described in the specification or abstract and or shown in the drawings. Rather, Applicants believe that they are entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

#### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application, entry of the claim amendments, and the timely allowance of the pending claims.

If the Examiner believes that a telephone conversation might advance prosecution of this application, the Examiner is cordially invited to call Applicants’ undersigned attorney at (404) 653-6435.

Applicants respectfully submit that the Office Action contains a number of assertions concerning the related art and the claims. Regardless of whether those assertions are addressed specifically herein, Applicants respectfully decline to automatically subscribe to them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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